

Docket No.: 50395-109



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PATENT *5-15-02*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Nobuyuki OKUDA, et al.

Serial No.: 10/030,312

Group Art Unit: 1745

Filed: January 10, 2002

Examiner: not yet assigned

For: SEPARATOR FOR SOLID POLYMER ELECTROLYTIC FUEL BATTERY

LETTER TO EXAMINER

Box Issue Fee
Commissioner for Patents
Washington, DC 20231

Sir:

To ensure that the information is available to the Examiner we are providing copies of Notification of transmittal of copies of translation of the International Preliminary Examination Report (PCT/IB/338) and a copy of translation of the International preliminary Examination Report (PCT/IPEA/409).

Respectfully submitted,

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PATENT COOPERATION TREATY

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NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 72.2)

From the INTERNATIONAL BUREAU

To:

JODAI, Tetsuji
 Sumitomo Electric Industries, Ltd.
 1-3, Shimaya 1-chome
 Konohana-ku
 Osaka-shi
 Osaka 554-0024
 JAPON



Date of mailing (day/month/year) 15 February 2002 (15.02.02)	
Applicant's or agent's file reference 100124-WO-00	IMPORTANT NOTIFICATION
International application No. PCT/JP00/04719	International filing date (day/month/year) 13 July 2000 (13.07.00)
Applicant SUMITOMO ELECTRIC INDUSTRIES, LTD. et al	

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

EP,AU,CA,CN,NO,US

The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

BR,JP,KR,SG

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer Elliott PERETTI Telephone No. (41-22) 338.83.38
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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 100124-WO-00	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP00/04719	International filing date (day/month/year) 13 July 2000 (13.07.00)	Priority date (day/month/year) 19 July 1999 (19.07.99)
International Patent Classification (IPC) or national classification and IPC H01M 8/02, 8/10		
Applicant SUMITOMO ELECTRIC INDUSTRIES, LTD.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>	
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input checked="" type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>	

Date of submission of the demand 22 December 2000 (22.12.00)	Date of completion of this report 18 September 2001 (18.09.2001)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP00/04719

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP 00/04719

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	2-3	YES
	Claims	1, 4-9	NO
Inventive step (IS)	Claims	2-3	YES
	Claims	1, 4-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

2. Citations and explanations

Document 1: JP, 3-25857, A (Idemitsu Petrochemical Co., Ltd.), 4 February 1991 (04.02.91); claims (Family: none)

Document 2: JP, 10-255823, A (Asahi Glass Co., Ltd.), 25 September 1998 (25.09.98); claims and page 3, right column, lines 35-38 (Family: none)

Claims 1 and 8-9 are not novel and do not involve an inventive step in the light of Document 1 or Document 2 cited in the international search report.

Document 1 discloses a separator for a fuel cell, wherein the surface is coated with a conductive diamond layer, and diamond is a hard substance (page 2, upper right column, lines 8-14); and the diamond layer can be formed by a process such as sputtering (page 4, upper right column, line 12 to lower left column, line 6).

Solid polymer electrolyte fuel cells are encompassed within fuel cells, and there is no identifiable difference between Claim 1 and the above disclosure in Document 1. Moreover, a person skilled in the art could easily conceive of applying the invention disclosed in Document 1 to a solid polymer electrolyte fuel cell.

Document 2 discloses a separator for a solid polymer electrolyte fuel cell, wherein a layer containing

conductive carbon material is formed on the surface, and discloses formation of the layer containing conductive carbon material by a process such as CVD, PVD or spraying (page 3, right column lines 35-38).

In the invention as set forth in Claim 1, "hard" in "a hard carbon film" describes specific property, although the degree of hardness of the carbon film is unclear; however, the processes for producing the invention according to Claim 1 (page 3, lines 14-17) are the same as in Document 2, so it can be assumed that a hard carbon film can also be formed in the invention disclosed in Document 2.

The insertion of a monolayer film of a metal carbide, metal nitride or metal carbonitride, or a laminated film or mixed film containing two or more such compounds, between the hard conductive carbon film and the separator base in the inventions set forth in Claims 2 and 3 is not disclosed in any of the documents cited in the international search report, nor could it be deduced easily from disclosures in any of the documents cited in the international search report.

Claims 4-6 are not novel and do not involve an inventive step in the light of Document 1 or Document 2 cited in the international search report.

The values for the microvickers hardness or Noop hardness of the conductive carbon film, resistance and hydrogen content of the inventions disclosed in Documents 1 and 2 overlap with those in the inventions set forth in Claims 4-6.

Claim 7 is not novel and does not involve an inventive step in the light of Document 1 cited in the international search report.

Document 1 discloses lamination of a conductive diamond layer with a material such as porous carbon.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP00/04719

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

<u>Application No. Patent No.</u>	<u>Publication date (day/month/year)</u>	<u>Filing date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
JP,2000-58080.A	25 February 2000 (25.02.2000)	12 August 1998 (12.08.1998)	
[EX]			

2. Non-written disclosures (Rule 70.9)

<u>Kind of non-written disclosure</u>	<u>Date of non-written disclosure (day/month/year)</u>	<u>Date of written disclosure referring to non-written disclosure (day/month/year)</u>